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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/123,620	07/28/98	ELFORD	H HEBVR-5

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HM22/0328

EXAMINER

FONDA, K

ART UNIT	PAPER NUMBER
1623	23

DATE MAILED: 03/28/01

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Paper No. 23

Application Number: 09/123,620

Filing Date: 7-28-98

Appellant: Howard L. Elford

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James L. Rowe  
For Appellant

**EXAMINER'S ANSWER**

This is in response to appellant's brief on appeal filed 01-08-01.

**(1) Real Party in Interest**

A statement identifying the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

A statement that there are no related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

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**(3) Status of Claims**

The statement of the status of the claims contained in the brief is correct.

**(4) Status of Amendments After Final**

Appellant has not provided a statement of the status of amendments after final rejection. The examiner notes that the after final amendment of 11-18-99 has NOT been entered. The after final amendment of 07-06-00 has been granted entry by the examiner; non-entry of the requested amendment to claim 1, line 2 for clerical reasons is moot because claim 1 has now been canceled. The after final amendments of 09-19-00 and 01-08-01 have been entered.

**(5) Summary of Invention**

The summary of invention contained in the brief is correct.

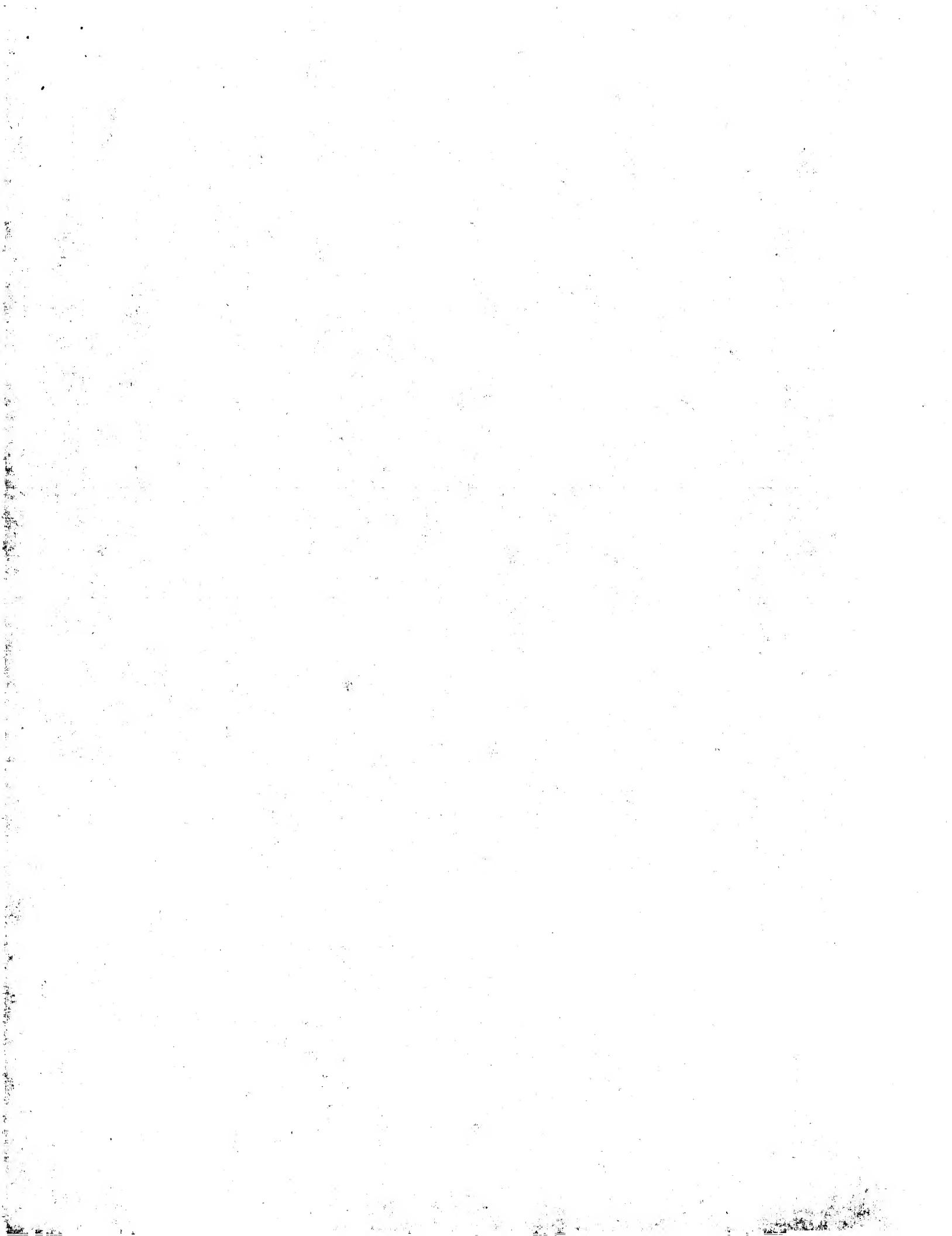
**(6) Issues**

The appellant's statement of the issues in the brief is correct. The sole remaining issue on appeal is whether claims 2-11 and 14 are obviousness over VAN'T RIET *et al.* in view of appellant's admission as to the state of the art.

**(7) Grouping of Claims**

Claims 2-11 and 14 stand or fall together because appellant's brief does not include a statement and reasons in support thereof as to why this grouping should not stand or fall together. See 37 CFR 1.192(c)(7).

**(8) ClaimsAppealed**



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The copy of the appealed claims contained in the Appendix to the brief is substantially correct. The minor error is as follows:

Claim 2, in line 2, "includes, but is not limited to" should be --comprising--. The examiner notes that appellant appears to have intended --comprises--.

**(9) *Prior Art of Record***

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

4,623,659

VAN'T RIET *et al.*

11-18-86

**(10) *Grounds of Rejection***

The following ground of rejection is applicable to the appealed claims.

Claims 2-11 and 14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over VAN'T RIET *et al.* in view of appellant's admission.

Appellant claims a process for inhibiting NF- $\kappa$ B in a mammalian cell by administration of a hydroxybenzoic acid or derivative thereof as set forth in claim 14.

VAN'T RIET *et al.* teach compounds coextensive in scope with those of the instant claims, including the specific compounds of claims 5-7; see the Summary of the Invention. Note also the first full paragraph on page 6 of the instant specification acknowledges that the compounds of the reference are those of the instant claims. VAN'T RIET *et al.* also discloses that these compounds are ribonucleotide reductase inhibitors and free radical scavengers; see the Abstract.

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Appellant admits that it was known in the art at the time of the invention that anti-oxidants inhibit activation of NF-κB. See page 2, lines 7-8, which is part of the "Background of the Application" section of appellant's specification.

It would have been obvious for a person of ordinary skill in the art at the time of the invention to inhibit NF-κB in a mammalian cell by administration of a hydroxybenzoic acid or derivative thereof. Because the compounds are taught by VAN'T RIET *et al.* to be ribonucleotide inhibitors and free radical scavengers, an ordinarily skilled chemist would immediately recognize them to be anti-oxidants. Appellant had admitted that it was known in the art at the time of the invention that anti-oxidants inhibit activation of NF-κB. Therefore, an ordinarily skilled worker would have been motivated, with a reasonable expectation of success, to inhibit NF-κB in a mammalian cell by administration of a hydroxybenzoic acid or derivative thereof, regardless of the cause of the NF-κB activation.

#### **(II) Response to Argument**

The examiner points out that the Casarett & Doull's Toxicology reference which appellant mentions at page 3 of the Brief was cited by the examiner with the Advisory Action of 12-27-99 in response to an argument raised by appellant in the response of 11-18-99, and is in no way relied on as a basis for the appealed obviousness rejection.

At the heart of the disagreement between appellant and the examiner as to obviousness of the appealed claims is the proper interpretation of the term "anti-oxidant." Appellant characterizes the examiner's understanding of "anti-oxidant" as "tortur[ing] the accepted

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meaning . . . beyond recognition." Brief at page 4. The examiner does not agree. "During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow." *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). This is what the examiner has done.

It is the examiner's position that an anti-oxidant is, as the term itself implies, something that acts to prevent or inhibit oxidation, regardless of whether the oxidation concerns actual reaction with oxygen, or is of the more general type definable in terms of loss of one or more electrons. VAN'T RIET *et al.* had taught that hydroxybenzoic acid and derivatives thereof were ribonucleotide reductase inhibitors. A reductase, when it acts as such, catalyzes reduction of another molecule and is itself oxidized. Thus, any molecule which inhibits reductase activity must necessarily be an anti-oxidant, because preventing reductase activity means preventing oxidation of the reductase. Contrary to appellant's assertion at page 2 of the Brief, this is true regardless of the mechanism by which the reductase is deactivated. As long as the reductase is prevented or inhibited from catalyzing reduction and being oxidized itself, the causative agent is an anti-oxidant.

Similarly, a free radical scavenger must be an anti-oxidant. VAN'T RIET *et al.* had taught that hydroxybenzoic acid and derivatives thereof were free radical scavengers. A free radical scavenger inhibits or prevents oxidative damage to biomolecules such as lipids, proteins, or nucleic acids, because the scavenger instead of the biomolecule reacts with the free radical. The scavenger, by undergoing oxidation itself, prevents oxidation of the biomolecules and is therefore an anti-oxidant.

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Appellant argues that the examiner has employed improper hindsight in formulating the appealed rejection. The examiner does not agree. The rejection is based on what was known in the art, as evidenced by VAN'T RIET *et al.* and appellant's admissions. The examiner has used "logic and sound scientific principle" in order to explain why the claimed invention would have been obvious in view of what was known in the art. *In re Soli*, 137 USPQ 797, 801 (CCPA 1963). Such an explanation is not improper hindsight.

The claimed invention is obviousness over VAN'T RIET *et al.* in view of appellant's admitted state of the art. For the above reasons, it is believed that this rejection should be sustained.

Respectfully submitted,

*Kathleen Kahler Fonda*

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Primary Examiner  
Art Unit 1623

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March 26, 2001

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